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## Perspective

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### Guns and Suicide in the United States

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This past June, in a 5-to-4 decision in *District of Columbia v. Heller*, the Supreme Court struck down a ban on handgun ownership in the nation's capital and ruled that the District's law requiring all fire-

arms in the home to be locked violated the Second Amendment. But the Supreme Court's finding of a Second Amendment right to have a handgun in the home does not mean that it is a wise decision to own a gun or to keep it easily accessible. Deciding whether to own a gun entails balancing potential benefits and risks. One of the risks for which the empirical evidence is strongest,<sup>1</sup> and the risk whose death toll is greatest, is that of completed suicide.

In 2005, the most recent year for which mortality data are available, suicide was the second-leading cause of death among Americans 40 years of age or younger. Among Americans of

all ages, more than half of all suicides are gun suicides. In 2005, an average of 46 Americans per day committed suicide with a firearm, accounting for 53% of all completed suicides. Gun suicide during this period accounted for 40% more deaths than gun homicide.

Why might the availability of firearms increase the risk of suicide in the United States? First, many suicidal acts — one third to four fifths of all suicide attempts, according to studies — are impulsive. Among people who made near-lethal suicide attempts, for example, 24% took less than 5 minutes between the decision to kill themselves and the actual

attempt, and 70% took less than 1 hour.<sup>2</sup>

Second, many suicidal crises are self-limiting. Such crises are often caused by an immediate stressor, such as the breakup of a romantic relationship, the loss of a job, or a run-in with police. As the acute phase of the crisis passes, so does the urge to attempt suicide. The temporary nature and fleeting sway of many suicidal crises is evident in the fact that more than 90% of people who survive a suicide attempt, including attempts that were expected to be lethal (such as shooting oneself in the head or jumping in front of a train), do not go on to die by suicide. Indeed, recognizing the self-limiting nature of suicidal crises, penal and psychiatric institutions restrict access to lethal means for persons identified as potentially suicidal.

Third, guns are common in

the United States (more than one third of U.S. households contain a firearm) and are lethal. A suicide attempt with a firearm rarely affords a second chance. Attempts involving drugs or cutting, which account for more than 90% of all suicidal acts, prove fatal far less often.

The empirical evidence linking suicide risk in the United States to the presence of firearms in the home is compelling.<sup>3</sup> There are at least a dozen U.S. case-control studies in the peer-reviewed literature, all of which have found that a gun in the home is associated with an increased risk of suicide. The increase in risk is large, typically 2 to 10 times that in homes without guns, depending on the sample population (e.g., adolescents vs. older adults) and on the way in which the firearms were stored. The association between guns in the home and the risk of suicide is due entirely to a large increase in the risk of suicide by firearm that is not counterbalanced by a reduced risk of nonfirearm suicide. Moreover, the increased risk of suicide is not explained by increased psychopathologic characteristics, suicidal ideation, or suicide attempts among members of gun-owning households.

Three additional findings from the case-control studies are worth noting. The higher risk of suicide in homes with firearms applies not only to the gun owner but also to the gun owner's spouse and children. The presence of a gun in the home, no matter how the gun is stored, is a risk factor for completed suicide. And there is a hierarchy of suicide risk consistent with a dose-response relationship. How

Data on Suicides in States with the Highest and Lowest Rates of Gun Ownership, 2001–2005.*			
Variable	States with the Highest Rates of Gun Ownership	States with the Lowest Rates of Gun Ownership	Ratio of Mortality Rates
Person-years	195 million	200 million	
Percent of households with guns	47	15	
<b>Male</b>			
No. of firearm suicides	14,365	3,971	3.7
No. of nonfirearm suicides	6,573	6,781	1.0
Total no.	20,938	10,752	2.0
<b>Female</b>			
No. of firearm suicides	2,212	286	7.9
No. of nonfirearm suicides	2,599	2,478	1.1
Total no.	4,811	2,764	1.8

\* The states with the highest rates of gun ownership included here are Wyoming, South Dakota, Alaska, West Virginia, Montana, Arkansas, Mississippi, Idaho, North Dakota, Alabama, Kentucky, Wisconsin, Louisiana, Tennessee, and Utah. The states with the lowest rates of gun ownership included here are Hawaii, Massachusetts, Rhode Island, New Jersey, Connecticut, and New York. Data on gun ownership are from the 2001 Behavioral Risk Factor Surveillance System. Data on suicides are from the Centers for Disease Control and Prevention Web-Based Injury Statistics Query and Reporting System (WISQARS; [www.cdc.gov/ncipc/wisqars](http://www.cdc.gov/ncipc/wisqars)).

household guns are stored matters especially for young people — for example, one study found that adolescent suicide was four times as likely in homes with a loaded, unlocked firearm as in homes where guns were stored unloaded and locked.

Many ecologic studies covering multiple regions, states, or cities in the United States have also shown a strong association between rates of household gun ownership and rates of completed suicide — attributable, as found in the case-control studies, to the strong association between gun prevalence and gun suicide, without a counterbalancing association between gun-ownership levels and rates of nongun suicide. We recently examined the relationship between

rates of household gun ownership and suicide in each of the 50 states for the period between 2000 and 2002.<sup>4</sup> We used data on gun ownership from a large telephone survey (of more than 200,000 respondents) and controlled for rates of poverty, urbanization, unemployment, mental illness, and drug and alcohol dependence and abuse. Among men, among women, and in every age group (including children), states with higher rates of household gun ownership had higher rates of firearm suicide and overall suicides. There was no association between firearm-ownership rates and nonfirearm suicides. To illustrate the main findings, we presented data for the 15 states with the highest levels of household gun ownership

matched with the six states with the lowest levels (using only six so that the populations in both groups of states would be approximately equal). In the table, the findings are updated for 2001 through 2005.

The recent Supreme Court de-

ly on the first approach. Yet international experts have concluded that restriction of access to lethal means is one of the few suicide-prevention policies with proven effectiveness.<sup>5</sup>

In our experience, many clinicians who care deeply about pre-

means until suicidal feelings have passed. A Web site of the Harvard Injury Control Research Center can help physicians and others in this effort ([www.hsph.harvard.edu/means-matter](http://www.hsph.harvard.edu/means-matter)). Effective suicide prevention should focus not only on a patient's psychological condition but also on the availability of lethal means — which can make the difference between life and death.

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### *Restriction of access to lethal means is one of the few suicide-prevention policies with proven effectiveness.*

cision may lead to higher rates of gun ownership. Such an outcome would increase the incidence of suicide. Two complementary approaches are available to physicians to help counter this possibility: to try to reduce the number of suicide attempts (e.g., by recognizing and treating mental illness) and to try to reduce the probability that suicide attempts will prove fatal (e.g., by reducing access to lethal means). Many U.S. physicians, from primary care practitioners to psychiatrists, focus exclusive-

venting suicide are unfamiliar with the evidence linking guns to suicide. Too many seem to believe that anyone who is serious enough about suicide to use a gun would find an equally effective means if a gun were not available. This belief is invalid.

Physicians and other health care providers who care for suicidal patients should be able to assess whether people at risk for suicide have access to a firearm or other lethal means and to work with patients and their families to limit access to those

## Drug Warnings That Can Cause Fits — Communicating Risks in a Data-Poor Environment

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In 2005, after receiving case reports of suicides by patients taking anticonvulsant medications, the Food and Drug Administration (FDA) asked the manufacturers of 11 drugs in this class to report all suicide-related events in the controlled trials they had

conducted over many years. This past January, nearly 3 years later, the agency completed its analysis of these data and announced that it had found a near-doubling of suicidal ideation and behavior among trial subjects randomly assigned to receive these drugs rather

than placebo<sup>1</sup> (odds ratio, 1.8; 95% confidence interval [CI], 1.2 to 2.7<sup>2</sup>). For patients in epilepsy studies, the risk was 3.5 times that seen with placebo (95% CI, 1.3 to 12.1). The rate of completed suicides, though higher in the active-drug groups, was too low to per-